

Critical Review:
Is theatre an effective intervention method for people living with a communication disorder?

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This critical review examines the current evidence regarding whether theatre is an effective intervention method for people living with a communication disorder. A search of the literature yielded eight relevant papers. Populations included adults living with aphasia, individuals with autism spectrum disorder (ASD), and children who use augmentative and alternative communication (AAC) due to some form of communication impairment. Research designs included one case illustration, two mixed method designs, three single group experimental designs, one nonrandomized clinical trial, and one randomized control trial. Overall, the evidence gathered from this review is mixed depending on the population in question. Therefore, the evidence is equivocal when applied to communication disorders as a whole and should be interpreted with caution. The one area for which the available evidence provides positive indications of therapeutic benefit with some consistency is in regards to intervention targeting social communication skills in children with ASD. More comprehensive research in this area is warranted given the compelling importance of the impact this type of work can have on participants, parents/caregivers and the community at large. Clinical implications and recommendations for future research are discussed.

Introduction

"I realize though, I am gaining a lot. Not only the play, but...life!"

- Paul David Wilson, Stroke Survivor
with Aphasia and Theatre Group
Participant

Drama therapy has been defined by the North American Drama Therapy Association (NADTA) as the systematic and intentional use of drama and theatre techniques to achieve therapeutic goals. The NADTA describes this experiential model as providing participants with a number of benefits including the opportunity to tell their stories, problem solve, set goals, express their feelings, improve relationships and improve interpersonal skills. The method has been increasingly implemented and used with a variety of populations across the lifespan in a multitude of settings including mental health, educational, shelters, group homes, assisted living centers, hospitals and rehabilitative facilities to name several. Over the past few decades, a variety of drama therapy techniques have been used to enhance social and communication skills in children with communication impairments (Corbett et al., 2011). Since the 1990's, the techniques have also been used to help people living with aphasia to improve their communication skills (Cherney, Oehring, Whipple & Rubenstien, 2011).

While drama therapy encompasses both theatre and drama, it is important to note that for the purposes of this critical review, the intentional use of theatre processes is of relevance. Theatre is distinguished from

drama here in that it involves a performance aspect in front of a live audience. Drama, on the other hand, makes use of common theatre techniques such as improvisation, role-play and script work without the live performance component. The connection between theatre and communication disorders specifically has yet to be firmly established. However, due to constant rehearsal and performance demands, involvement in a theatre production has been thought to increase self-confidence and encourage listening abilities, both of which are skills necessary for good communication (Coté, Getty, & Gaulin, 2008). It is also believed that due to the collaborative nature of creating a theatre production, communication opportunities are inherent in the art form which is thought to provide individuals with the opportunity to practice learned communication skills (Reading, Reading, Padgett, Reading & Pryor, 2015). Theatre also incorporates acting which is, in itself, an interactive process that involves learning how to observe, interpret words, actions, and non-verbal cues, as well as how to express emotions and ideas in a number of different ways (Corbett et al., 2016). Finally, theatre is fun and offers a supportive environment to explore, learn and grow, which can be highly motivating.

Given the potential for this art form to have a positive effect on individuals with communication disorders and given the fact that theatre is already being used with individuals living with a communication disorder to varying degrees, it is important to examine the existing literature to determine the efficacy of theatre as an intervention method. It is also important to look more closely at what skills are being affected, if any, in order to narrow the focus of future research.

Objectives

The primary objective of this paper is to critically evaluate the existing literature regarding whether theatre is an effective intervention method for people living with a communication disorder. A secondary objective is to examine implications for clinical practice and provide recommendations for future research.

Methods

Search Strategy

A variety of online databases were used including PubMed, ProQuest, and Medline. The following key terms were used: (theatre) OR (drama) OR (performance) AND (communication disorders) OR (speech therapy) OR (communication impairment). Reference lists of previously searched articles were used to obtain additional studies. The search was limited to studies written in English.

Selection Criteria

Research studies that investigated or reported the use of a theatrical performance preceded by a rehearsal period and/or theatre workshop with individuals living with some kind of communication disorder were selected for inclusion. Participants must have been clinically diagnosed with a communication disorder. Studies were limited to those published in English.

Data Collection

Results of the literature search yielded eight articles that met the above-mentioned selection criteria including one case illustration, two mixed method designs, three single group experimental designs, one nonrandomized clinical trial, and one randomized control trial. Specific communication disorders included aphasia, autism spectrum disorder (ASD) and children who use augmentative and alternative communication (AAC) due to a communication impairment.

Results

Case Illustration

Although a case illustration is considered to be a lower level of evidence, it is appropriate when the goal of the study is to describe a particular situation and to introduce readers to a new topic and/or idea. As such, it is appropriate when examining how theatre is being used as an intervention method for children who use AAC and whether or not its use is effective. Results gathered from illustrative case studies cannot be generalized to a broader population resulting in a weak level of evidence. However, illustrative case studies can provide directions for future research.

Batorowicz et al. (2006) reported two case illustrations investigating community partnership recreational programs created for children who used AAC based on a well-established paediatric service delivery model. One of the programs involved AAC users taking part in a five-day theatrical experience culminating with a final performance. Participants included 13 children between the ages of 6-12 years who voluntarily enrolled in the program. Participants were required to have used AAC for any level of face-to-face communication. Demographic characteristics of the participants including age, diagnosis, years attended, gender, communication method(s) and access method were wide ranging but well-described. An unspecified number of peer mentors who used AAC were made available for participants. Limited details were provided about the role of the peer mentor. The progression of the program and expectations of participants were well-described. All participants were provided with numerous communication opportunities and were expected to communicate at least once during each activity. Data were collected over a six-year time span, with no indication of how much data was obtained each year.

A parent/caregiver study-designed questionnaire with no reported psychometric properties was distributed to 31 parent/caregivers over the six years. The distribution was not consistent and the response rate was low (32.25%). Participant evaluation was implemented in 2004 by way of a questionnaire containing one quantitative question. Only two participants responded. No other outcome measures were reported.

Appropriate descriptive statistics were reported for the limited number of parent questionnaires received. The authors reported a number of benefits for parents/caregivers based on a summary of the comment section on the questionnaires. Benefits were not specific to the drama program. The authors also reported benefits for the community partners and AAC clinicians although no direct measures were presented to support these claims. The authors also stated that participation in the programs they presented are important to children's quality of life and help develop competencies, although, no quality of life measures were reported. The authors acknowledged that due to the low questionnaire response rate, results should be interpreted with caution.

Overall, this study provides equivocal evidence that theatre is an effective intervention method for children who use AAC as a result of communication impairment.

Single Group Experimental Design

The use of a single group experimental design involves pre-test and post-test measures given to a single group.

Baseline measures are determined followed by treatment with a group of subjects who are measured again upon its conclusion. As with case illustrations, the design does not allow for control or comparison groups so generalization of treatment effects to a broader population is a limitation resulting in a moderate level of evidence. However, this is an appropriate research method for this topic in particular as the specificity of the topic tends to lead to a limited number of participants.

Cherney et al. (2011) provided a detailed account of an 18-week theatre experience in which individuals living with mild to moderate aphasia developed, wrote and produced a play about aphasia under the direction of a drama therapist and speech-language pathologist (SLP). Although 14 individuals participated in the program, study measures were completed with only seven of them (ages 41-73). A variety of information was provided about these seven participants, however, sex distribution was unspecified. Methods used to diagnose the aphasia were not specified. Recruitment information was roughly outlined. Using valid and reliable scales, participants completed pre- and post-ratings of communication difficulty, social relations, mood and confidence in communication across different settings. All testing was conducted by an SLP who was independent of the SLP working with the group.

Only effect size measures were reported, which is appropriate given the small sample. When compared to a standardized definition of effect, effect sizes were small or medium. Based on these effect sizes, the authors argued for perceived improvements in communication confidence and mood as well as a perceived decrease in communication difficulty and distress. No perceived changes in social relations were found which, the authors stated, highlights the impact of this theatrical experience on communication and mood specifically. Interestingly, the authors noted in their discussion that the collaboration between the SLP and drama therapist was essential to the successful implementation of the theatrical experience and helped to ensure participants' communication needs were met.

Overall, this article provides equivocal evidence that theatre is an effective intervention method for adults living with aphasia.

Corbett et al. (2011) evaluated the efficacy of a novel theatrical intervention program called Social Emotional NeuroScience Endocrinology (SENSE) Theatre. Participants included eight children between the ages of 6-17 years who had a diagnosis of ASD paired with typically developing children who served as peer models. No recruitment information was provided.

There were no requirements based on age, gender or IQ leading to a small and varied sample. No control group was included. Participants completed a 10-week peer-mediated program with a video and behaviour modeling component. The experience culminated with a live performance. The program was designed to reduce stress and improve socioemotional functioning in children with ASD. Details regarding what professionals were involved in conducting the theatre intervention were not provided.

The authors utilized gold standard pre- and post-test assessments to assess neuropsychological and biological measures and well-established parent-report questionnaires to measure behaviour. Neuropsychological measures were conducted by a licensed psychologist. Good rationale for assessing these measures was provided. Finally, in order to evaluate stress levels, salivary cortisol samples were appropriately collected pre- and post-assessment and at defined periods throughout the rehearsal process. Oxytocin levels were also appropriately collected from a blood sample at the pre- and post-assessments.

Appropriate statistical analysis revealed no significant differences for behavioural parent-report measures. In contrast, the authors found a significant difference in two of the three neuropsychological measures (Memory for Faces and Theory of Mind). A significant reduction in cortisol values was found between the start of the first rehearsal and the end of the middle rehearsal date, however, no significant difference after the final rehearsal was found. The authors quantified this as a result of habituation. The authors concluded their theatrical intervention method showed promise in addressing the social communication challenges in children with ASD.

Overall, this study provides somewhat suggestive evidence that the specific SENSE Theatre experience is an effective intervention method for children with ASD.

Corbett et al. (2014) examined the SENSE Theatre experience in a 2-week summer camp model for 11 children between the ages of 8-17 years. All participants had been diagnosed with ASD and were paired with typically developing peer models. No recruitment information was included. Exclusion criteria were detailed, and the theatrical program was well-described. Gold standard pre- and post-test neuropsychological measures and well-established parent report measures were used to measure social perception and interaction skills. Salivary cortisol samples were collected across various contexts (theatre, playground, home). Assessments, behavioural coding, and statistical analysis were completed by individuals independent of

the research in order to promote objectivity, an improvement from the 2011 study (Corbett et al., 2011). It remains unclear what professional(s) were involved in the implementation of the theatre program.

Appropriate statistical analysis was completed. The authors used visual graph representations to highlight the data which may account for the lack of written detail. Fidelity testing was also implemented ensuring consistent implementation of training and treatment by peers as well as the consistent implementation of video and behavioural modeling by parents and staff. Results revealed significant differences in some measures of social functioning (Memory for Faces), stress responsivity and adaptive skills (home living and self-care). Beyond the limitation of the small sample size and lack of control group, there was no measure of Theory of Mind which was found to be positively affected in the 2011 study (Corbett et al., 2011).

In this study, the authors acknowledged a potential conflict of interest by providing a disclosure statement at the end of the report. This statement acknowledged one of the authors as the founder of SENSE Theatre. This was not included in the 2011 study (Corbett et al., 2011).

Overall, this study provides somewhat suggestive evidence that the specific SENSE Theatre experience is an effective intervention method for children with ASD.

Mixed Method Design

A mixed method research design uses a combination of qualitative and quantitative data collection and analysis in a single study. This design lends itself well to the question of interest as quantitative data can help validate the easier to interpret qualitative data.

Coté et al. (2008) reported a description of the development of a theatrical program for adults living with aphasia. Within this report, the authors included a brief description of a mixed methods study involving individuals with aphasia and their caregivers. No details were provided regarding the number of participants or participant selection. Although the study implemented the theatrical program described in the article, specific details regarding intervention duration and data collection were not reported. Outcome measures included three published questionnaires used to evaluate life habits, communication skills, and perception of relatives. A semi-structured interview was also used for the qualitative assessment. The authors reported positive results for all measures, although, no data or data analysis was presented.

Overall, this study provides equivocal evidence that theatre is an effective intervention method for adults living with aphasia.

Castka, Abbanat, Holland & Szabo (2009) reported a brief overview of an unnamed center's 12-week community based musical theatre program for individuals living with aphasia, culminating with matinee and evening performances. Participants included twenty-three individuals presumed to have aphasia. No information was provided regarding participant details or selection. Participants were categorized as either first time or veteran participants, however, there is no mention of how long veteran participants had been involved in the program. Pre-participation survey data was collected by first-time participants only and post-participation survey data was collected by all participants. The rationale behind this choice was not clearly stated. A total of 19 survey responses were collected. Survey details and statistical analysis were not reported. Discussions with participants and their caregivers were also used to obtain qualitative data on the psychosocial, linguistic and recreational/vocational effects of the theatre program. The authors reported surveys and discussions provided preliminary support for several potential benefits of the program, although, limited data was reported to support this claim. It is worth noting that the authors disclosed this article was a proposal and that should it be accepted, further information would be provided. However, no follow-up article was found during the online search in preparation for this review.

Overall, this study provides equivocal evidence that theatre is an effective intervention method for individuals living with aphasia.

Nonrandomized Control Trial

Nonrandomized control trials allow for comparison between groups of which individuals have not been randomly assigned. Instead, individuals are divided on the basis of a defined and differing variable. As non-randomized clinical trials are a quasi-experimental design, they do not carry the same high level of evidence as randomized clinical trials. However, nonrandomized control trials are still a valuable research tool and can be used to compare accessible samples.

Reading et al. (2015) conducted a nonrandomized control trial to evaluate the effectiveness of a well-described 10-week theatre program on the social behaviours of children with ASD. Participants included 16 students between the ages of 17-21 diagnosed with ASD. Of the 16 participants, eight volunteered to take part in the theatre program making up the experimental

group. The other eight, matched for age and diagnosis but not for gender, served as the control group. No randomization occurred. The sample was recruited from an unnamed private school serving students with ASD as well as other impairments. All participants were verbal, but the extent of their verbal abilities was not described. A strong rationale supporting the connection between theatre, acting and ASD was provided.

Using an unpublished measurement tool developed for this study by two of the authors, pre- and post-treatment data of four dependent measures were collected (Language Use and Conversation, Social Responsiveness, Perspective of Others and Participation and Cooperation). The tool was described in detail and reliability was adequately established. It was disclosed that the secondary rater was an author of this study and directly involved in the theatre experience. A high level of inter-rater reliability was appropriately established.

Appropriate statistical analysis was performed. Results revealed significant increases in the group who took part in the theatre experience on three of the four dependent measures (Social Responsiveness, Perspective of Others and Participation and Cooperation). These skills were not taught or targeted and thus, the authors stated that the significant increases in scores can be attributed to the theatre experience.

This study provides suggestive evidence that theatre is an effective intervention method for teens and young adults with ASD.

Randomized Control Trial

Randomized control trials (RCTs) are considered to be a gold standard for objective clinical research and provide the strongest level of evidence. Random assignment of participants to treatment conditions allows one to carefully address cause and effect relationships and compare findings between populations.

Corbett et al. (2016) conducted a randomized control trial to evaluate and extend the efficacy of SENSE Theatre's peer-mediated intervention for children with ASD. A total of 30 8-14-year-olds diagnosed with high-functioning ASD were randomly assigned to an experimental or wait-list control group. Randomization was administered by an individual not involved in the research. Demographics, selection criteria, and baseline measures were described. However, recruitment of the participants was not specified. Participants were paired with typically developing children who served as peer models. Video and behaviour modeling were also used. Established protocols were used to measure different aspects of social ability and social competence across multiple levels of analysis. Constructs,

procedures/periods and analyzed variables were clearly depicted. No information regarding who completed the testing measures was reported.

A variety of appropriate statistical tests were completed. Statistical analysis revealed significant between-group differences on social ability, reciprocal communication, group play with toys in the company of peers, delayed memory for faces, theory of mind and immediate memory of faces. This last difference was further measured by event-related potential (ERP) methods. The authors argued that this measure provided additional support that changes were a result of the theatrical intervention. Although not described in detail, follow-up testing was completed by parent questionnaire on reciprocal communication only at two months post-treatment and appeared to be positive.

Overall, this study provides highly suggestive evidence that participation in the SENSE Theatre experience is an effective intervention method for children with ASD.

Discussion

The use of theatre as an intervention method for individuals living with a communication disorder is a relatively unexplored area of interest in the literature. The objective of this paper was to critically evaluate the existing literature regarding the effectiveness of theatre as an intervention method and its impact on communication skills if any at all. The literature search yielded eight articles that met selection criteria and varied in design. Furthermore, specific populations were wide ranging and included adults living with aphasia, individuals with autism spectrum disorder (ASD), and children who use augmentative and alternative communication (AAC) due to some form of communication impairment. Collectively, the studies reviewed provided mixed evidence depending on the population in question.

Only one study, conducted by Batorowicz et al. (2006), explored the use of theatre with a group of children who use AAC and the evidence was equivocal. Three studies (Castka et al., 2009, Cherney et al., 2011, Coté et al., 2008) examined theatre as an intervention method for people living with aphasia and once again, the evidence was equivocal. Finally, four studies looked at the effects of theatre as an intervention method for individuals with ASD and each provided suggestive evidence. However, it is important to know that three of these four studies were conducted by Corbett et al. (2011, 2014, 2016) and results have yet to be replicated. Small sample sizes were common throughout all eight studies and thus, generalization is limited to the individual populations let alone communication disorders as a whole.

It is important to note that while each study looked at the use of theatre with individuals living with a communication disorder and incorporated an element of live performance, how each group conducted their rehearsal process differed from one study to the next. This resulted in different dosages of intervention across studies. For example, in the case illustration presented by Batorowicz et al. (2006), participants were led through five 180 minute sessions over five consecutive days. Sessions consisted of a variety of activities including reading stories and developing them into scripts which were later rehearsed and performed. Cherney et al. (2011) took a different approach and had participants complete a series of weekly 90-minute drama workshops spread over 18 weeks. Group members were first encouraged to share their experiences living with aphasia. They then used improvisation as a way to generate material for the final script. On the other hand, the three studies by Corbett et al. (2011, 2014, 2016) examined the efficacy of SENSE Theatre, a theatrical intervention program specifically designed for children with ASD. The dosage model used to implement the intervention varied across the three studies.

Similarly, the different professionals who were involved in implementing the interventions differed across studies. For example, Batorowicz et al. (2006) formed a community partnership with a children's theatre group. Typically developing youth actors were then trained to conduct the theatre program with support from the organization's AAC clinicians who were trained, speech-language pathologists and occupational therapists. Cherney et al. (2011) reported that sessions were co-facilitated by a drama therapist and speech-language pathologist. The authors concluded the use of these two professionals were essential to the success of the program. On the other hand, the studies presented by Coté et al. (2008) and Reading et al. (2015) noted that intervention was conducted by theatre professionals only. Finally, while the specific professionals involved in implementing the intervention presented in the studies by Corbett et al. (2011, 2014, 2016) were not always clearly defined, the intervention did involve the use of peer models as well as video and behavioural modeling which is yet another layer that differs this intervention from the others.

An additional limitation consistent throughout these eight studies lies in how participants were recruited. Of the eight studies, two studies (Batorowicz et al., 2006, Cherney et al., 2011) recruited participants through advertisements to join a theatre program and two studies (Coté et al., 2008, Castka et al., 2009) reported no information. On the other hand, Reading et al. (2015) recruited participants from a private school that

specifically serves children with neurological impairments. However, the three studies conducted by Corbett et al. (2011, 2014, 2016) are of particular note. None of these studies included information regarding participant recruitment. Therefore, it remains unclear whether or not any of the participants were involved in multiple studies conducted by this group of authors.

The examples presented above seem to highlight the inherent limitations of evaluating the efficacy of a loosely defined term such as theatre. It is difficult to capture all of the elements that make theatre based approaches so unique. This is perhaps due to the artistic aspect that encourages novel ideas to be brought forth time after time. As such, replication becomes a challenge. Similarly, it is difficult to define many of the elements that are unique to this process in a standardized way (i.e. rehearsal, improvisation, role-play, script-writing, performance). The fact that theatre has been used with such a wide range of communication disorders is also of note. It seems as though there is something to the art form that makes sense intuitively, however, we are not guided by evidence to know exactly what that is as of yet.

Evidently, more systematically designed research is needed to guide practice as the results have been highly variable to date. Future research should consider the use of larger sample sizes, designs with higher levels of evidence, more clearly defined terms and ways of measuring outcomes. Based on topics that arose from this literature search, it may be of particular interest to consider the following recommendations for future research:

1. Explore which professional or team of professionals is most appropriate to deliver theatrical intervention to individuals living with a communication disorder.
2. Explore the benefits of using theatre as a way to practice and/or maintain communication skills learned in a more traditional therapy setting.
3. Examine the benefits of using theatre as a way for participants to share their experiences and to raise awareness in the community about communication disorders.

While these papers provided mixed evidence, some are excellent starting points for those wishing to conduct their own research on the use of theatre as an intervention method or to establish a recreational theatre troupe for those living with a communication disorder in their community.

Conclusion

This critical review of the limited research on the effectiveness of theatre as an intervention method for individuals living with a communication disorder provides mixed evidence depending on the population in question. At this point in time, research has only been conducted on three very different populations (aphasia, ASD, and children who use AAC) each with their own set of challenges and core areas of deficit. Therefore, the evidence is equivocal when applied to communication disorders as a whole making it difficult to use theatre as an intervention method in a variety of clinical settings. The one area for which the available evidence provides positive indications of therapeutic benefit with some consistency is in regards to intervention targeting social communication skills in children with ASD.

Clinical Implications

Given the limitations of the research and lack of strong evidence presented in this review, it is recommended that speech-language pathologists are cautious when and if they choose to implement the results into their clinical practice. Nevertheless, speech-language pathologists should still consider the suggestive evidence provided when determining how best to implement interventions for children with ASD. The findings suggest positive indications that theatre may target social communication skills in children with ASD with some consistency.

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